

## CATEGORICAL EXCLUSION WORKSHEET: RESOURCE CONSIDERATIONS

### Aquatics

#### Crane Point Vegetation Restoration Palouse Ranger District Nez Perce/Clearwater National Forest

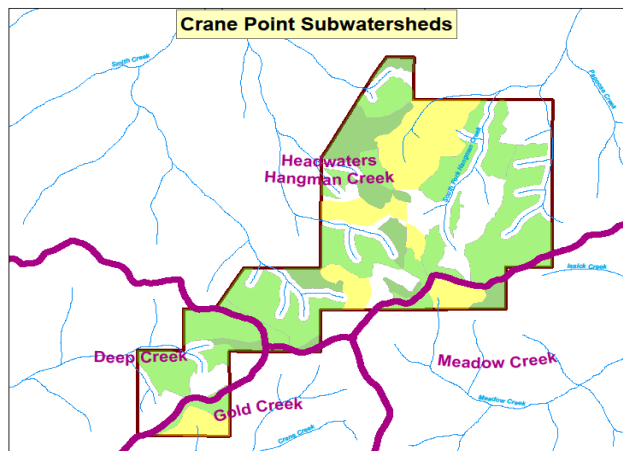
#### Description of the Proposed Action

The proposed action is detailed elsewhere, but the basic proposed activities are:

- Timber harvest and yarding
- Fuel treatments in the form of prescribed fire and both hand and mechanical non-commercial treatments, with the potential for biomass removal
- Temporary road construction
- Maintenance/reconditioning and reconstruction of existing system roads, including culvert replacement or resetting
- Decommissioning of non-system road and trails
- Haul of timber on existing Forest Service system and non-Forest Service roads

Features important to potential effects on aquatic organisms and habitat are described in the Design Features section below. The Design Features would reduce the potential for adverse effects to streams within and downstream of the project area primarily by excluding vegetation management activities from riparian areas (with the potential exception of prescription burning carried into riparian areas from ignitions at upland sites). Road-related activities would occur within riparian areas and in a few stream channels, but substantial efforts would be made to minimize changes in stream channel features and processes. The Deep Creek, Gold Creek, and Meadow Creek subwatersheds (Figure 1) are in the Palouse River subbasin and so standard INFISH buffers would be applied to vegetation management activities (see FF-1). Some buffers in the Headwaters Hangman Creek subwatershed would be wider than the default minimum (see FF-2).

Figure 1. Crane Point Project subwatersheds relevant to Design Features FF-1 and FF-2.



### ***Required Design Features for Fisheries and Related Resources***

The following design features are required to ensure compliance with the regulatory framework for this resource and/or to reduce the risk of adverse impacts to this resource. A description is provided as to when, where and how the design feature should be applied and/or what conditions would trigger the need to apply the design feature.

1. FF-1: INFISH Riparian Management objectives, standards and guidelines would be applied to protect aquatic resources, to include Riparian Habitat Conservation Areas (RHCA) default buffers. INFISH default buffers are to be used to define timber sale unit boundaries where water features are present. No timber harvest is to occur within 300 feet of fish-bearing streams, 150 feet of perennial non-fish bearing water, 50 feet of intermittent streams, 150-foot slope distance from the edge of wetlands larger than one acre.

***Anticipated Effectiveness:*** Delineation and compliance with INFISH, a component of the Clearwater Forest Plan, is intended to reduce or eliminate the potential for adverse effects to non-anadromous fish and other aquatic organisms. The specific RHCA buffers for timber harvest have been monitored on the Nez Perce-Clearwater National Forest (NP-CLW) and have been found to be effective in meeting the objective (Smith 2015, 2016).

In addition to protecting habitat within the RHCAs, INFISH (USDA FS 1995a) notes that the vegetation and debris within riparian buffers act as “filter strips” that are generally effective in protecting streams from sediment carried by non-channelized flow. Activities associated with vegetation management (primarily yarding and road construction/reconstruction), and road decommissioning activities would disturb soil at the activity sites. Some of this soil would then have the potential to be transmitted downhill until stabilized by vegetation growth, but because of INFISH buffers, most of the soil disturbed by the proposed activities would be scores or hundreds of feet or more from stream channels. Vegetation, downed woody material, duff, or topographical features should intercept and stabilize any mobilized soil before reaching a stream. Growth of vegetation on portions of harvest units and road prisms would be enhanced by soil decompaction, fuels treatments, live transplants, duff placement, woody debris application, or seeding.

2. FF-2: Mapped active stream channels in the Hangman Creek drainage would be buffered with a 150-foot RHCA to ensure that project area stream reaches which may have both intermittent and perennial qualities are adequately protected from potential effects of sediment transmission; this designation is proposed to ensure that project activities would conserve the upper Hangman “Conservation Population” of redband trout downstream of the project area.

***Anticipated Effectiveness:*** The use of 150-foot buffers on all GIS-mapped streams in this drainage should ensure that all stream channels are buffered in a manner which adequately protects redband trout habitat.

CNF monitoring has shown that RHCA buffers are very effective in eliminating impacts on stream channels (Smith 2015, 2016). The default buffer widths can also be modified (made greater) based on site conditions, as was the case for some stream channels in the Headwaters Hangman Creek subwatershed (FF-2). The boundaries of the proposed harvest and fuel treatment units in project documents may not fully reflect RHCA modifications that would be made during activity preparations.

3. FF-3: Haul routes would be maintained to BMP standards, including proper drainage, adequate stream culvert capacity, and cleared and functional cross-drains.

**Anticipated Effectiveness:** Because haul routes would cross RHCAs and stream channels, the proper preparation and maintenance of these roads during periods of timber haul (which places unusual stresses on the existing roads) would lessen the potential for fine sediment transmission and atypical flow routing to streams, thereby maintaining stream channel characteristics.

4. FF-4: Avoid hauling and other heavy equipment traffic during road conditions when the road surface rutting would occur.

**Anticipated Effectiveness:** Similar to FF-3, this design feature would lessen the potential for degradation of project streams, both in terms of fine sediment transmission and flow routing.

5. FF-5: Material cleaned from culverts would not be flushed or deposited in stream courses, ditches and catch basins would only be cleaned as needed to function, and undercutting the toe of the cut slope would be avoided.

**Anticipated Effectiveness:** Similar to FF-3 and FF-4, this design feature would lessen the potential for degradation of project streams, both in terms of fine sediment transmission and flow routing.

6. WQ-2: Avoid direct ignition of fuels within RHCA's or live clumps of trees. Allow prescribed fires to back into these areas.

**Anticipated Effectiveness:** This design feature allows for fuel treatments in upland areas without requiring the construction of fire lines along the RHCA edge. The typical result is that fire may burn into outer areas of RHCA, but sufficient duff and vegetation would remain to prevent adverse near-stream vegetation and sediment transmission effects.

7. SR-1 through SR-11: These Soil Resources design features would tend to reduce the potential for erosion and/or transmission of fine sediments to riparian areas and stream channels.

**Anticipated Effectiveness:** Similar to FF-3 through -5, except that they apply to harvest areas, these design features would lessen the potential for degradation of project streams.

## **Extraordinary Circumstances**

The following conditions were necessary to consider for this resource and the following determinations are made based on a review of the proposed action, required design features, the regulatory framework, and necessary analysis **for this resource**:

- **Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species**

*Extraordinary Circumstances Determination:*

Will not have extraordinary circumstances associated with the proposed actions.

### **Federally Listed Threatened or Endangered Species**

#### *Aquatics*

Individuals of aquatic species listed under the ESA (see Appendix A) are not present in the project area, and the effects of the project would not be transmitted downstream to any individuals of such species

*Extraordinary Circumstances Determination:*

Not necessary to consider for this project. (i.e. resource not found in the project area or no activities are proposed that affect the resource)

**Designated Critical Habitat**

*Aquatics*

Designated critical habitat for aquatic species is not present in the project area, and effects of the project would not be transmitted downstream to designated critical habitat.

*Extraordinary Circumstances Determination:*

Not necessary to consider for this project. (i.e. resource not found in the project area or no activities are proposed that affect the resource)

**Species Proposed for Listing**

*Aquatics*

Individuals of aquatic species proposed for listing under the ESA are not present in the project area, and effects of the project would not be transmitted downstream to any individuals of such species

*Extraordinary Circumstances Determination:*

Not necessary to consider for this project. (i.e. resource not found in the project area or no activities are proposed that affect the resource)

**Proposed Critical Habitat**

*Aquatics*

Proposed critical habitat for aquatic species is not present in the project area, and effects of the project would not be transmitted downstream to proposed critical habitat.

*Extraordinary Circumstances Determination:*

Not necessary to consider for this project. (i.e. resource not found in the project area or no activities are proposed that affect the resource)

**Sensitive Species**

*Extraordinary Circumstances Determination:*

Will not have extraordinary circumstances associated with the proposed actions.

*Aquatics*

Of the six Region 1 Sensitive aquatic species (see Appendix A), only redband trout and western pearlshell mussel are potentially present within the project area. The historic presence of cutthroat trout (of the Yellowstone or Westslope subspecies) in the Palouse or Hangman drainages is not known with any certainty, but historic and contemporary sampling in the vicinity of the project area did not document the presence of either form. Neither of the project watersheds are accessible to anadromous fish, so Chinook salmon and Pacific lamprey are also not present in the vicinity of the project area.

Redband trout are present in the Hangman Creek drainage of Idaho and Washington (May 2012), with a portion of the upper reaches of this drainage originating on NFS lands in the project area. Based on a field examination and a review of Forest Service and other data sources, it appears that, because of the small size of project area streams, redband trout are unlikely to be present in the portion of the Hangman Creek drainage within the project area; however, some individuals are likely present a short distance (< 1 mile) downstream of NFS lands (Idaho Department of Environmental

Quality, 2012). The population of redband trout present in the upper Hangman Creek drainage is considered a “Conservation Population” because of its relatively high genetic purity (Interior Redband Conservation Team 2016).

Western pearlshell mussel are or were present in the Hangman Creek drainage of Idaho and/or Washington, and were once present in the Palouse River drainage of Idaho (Xerces Society 2016). It is not known if individuals of the species are present in perennial streams of the project area, but it seems unlikely because of the small size and/or gradient of these streams. It is more likely, but not certain, that individuals of the species are present in substantial perennial streams to which the project area streams are tributary, but likely miles downstream of the project area.

## **Description of the Spatial and Temporal Bounds used for Effects Analyses**

### **Spatial Boundary**

The proposed activities would occur within the ~1,350 acre project area described above (Figure 1), plus the timber haul corridors. The project area includes ~3% of the Headwaters Hangman Creek subwatershed of the Upper Hangman watershed, and <1% each of the Deep, Gold, and Meadow Creek subwatersheds of the Deep Creek-Palouse River watershed.

Almost all of the regeneration harvest and most of the road-related activities (except for most of the timber haul distance) would be in the Headwaters Hangman subwatershed. The timber haul corridors that extend outside of the project area are likely entirely in the Palouse River subbasin on Forest Road 1273 or U.S. 95.

The spatial boundary for direct/indirect effects to aquatic resources is the project area, plus approximately one (1) mile downstream from haul routes within the project area to account for potential fuel spills. The cumulative effects area for aquatic resources is the entirety of the four subwatersheds that are part of the project area. This is because habitat conditions for aquatic organisms downstream of the project area or along haul routes can conceivably interact with existing and foreseeable conditions in the non-project portions of these subwatersheds, while conditions affecting aquatic organisms even farther downstream than these watersheds are too diluted or speculative to measure or analyze.

### **Temporal Boundary**

The temporal range of the proposed project and its effects would extend from project initiation on the ground (presumably in the form of road maintenance/reconditioning/reconstruction) through the timber harvest and prescription burning, timber haul, harvest unit fuels treatments plantings, and skid trail and temporary road decommissioning. All of these activities would likely be completed over 3-4 years, although completion of proposed prescription burning would likely take up to a decade, considering suitable burning conditions may or may not be present in some years.

The temporal boundary for direct/indirect effects to aquatic resources is the approximately ten years over which project activities would likely occur. The cumulative effects period for aquatic resources is the same ten years, because effects beyond this period would be too diluted or speculative to measure or analyze.

## **Direct/Indirect Effects**

Potential Direct Effects. If present, Redband trout and western pearlshell mussel, R1 sensitive species, would be protected from proposed regeneration harvest (including yarding and post-harvest fuels reduction) through application of the default RHCA buffers, so the risk of direct injury or mortality to individuals from harvest-related activities would be low to non-existent.

Fuel treatment units are remote from potentially fish-bearing streams (primarily the mainstem of the South Fork of Hangman Creek), so there is little potential for direct injury from prescription burns to fish. In-stream activities, limited to culvert installation and removal and temporary road crossings, has a potential to cause direct injury or mortality to individuals or disturb spawning areas through mechanical injury or localized and brief changes in water quality, especially high turbidity. Project location and PDFs associated with in-stream work should eliminate the potential of direct harm to the species, however. Sediment transmission and ensuing temporary high turbidity would likely be diluted prior to reaching the mainstem of the South Fork of Hangman Creek or other fishbearing streams downstream of the project area (CNF 2009).

There is also a potential for fuel or other contaminant spills into stream channels from vehicles or heavy equipment using Forests roads in the course of project activities. Because some of the roads parallel or cross streams in the project area or along log haul routes, redband trout and/or western pearlshell mussels downstream of the project area, if present, may be directly affected by a contaminant spill. PDFs would be implemented to reduce direct project impacts on the size or persistence of the populations. In addition, substantial contaminant spills are both rare and completely speculative.

Potential Indirect Effects. Project activities can have indirect effects on stream habitat primarily through changes in water yield, sediment production, and modification of riparian vegetation. Of these changes, water yield is the only one the PDFs do not address, because water yield increases are inherent in the harvest or other conversion of existing forest stands and other vegetation. Large increases in water yield can destabilize stream channels and banks, increase fine sediment input, and increase water temperature.

Based on the Hydrology specialist report for this project (Traeumer 2018), the proposed harvest and road-related activities would increase water yields over the baseline, but any increases would not be detectable, and therefore should not alter stream habitat quality to a measurable or biologically significant degree. In particular for redband trout and western pearlshell mussel present in the mainstem streams downstream of the project area, the effects on water yields (and other relatively diffuse potential effects) should be biologically insignificant because treatment units would comprise only 3% or less of the drainage areas of these watersheds and so any increase would be within the range of natural variation.

Timber harvest, fuel treatments, and road-related activities can disturb soil that would potentially be transmitted to stream channels, where fine sediment can alter stream channel and water quality characteristics, thereby reducing stream habitat quality, especially spawning substrate quality and in prey production. However, the INFISH RHCA buffers and road-related PDFs described above should eliminate or greatly reduce these potential indirect effects. Additionally, soil disturbance in the timber harvest and prescription burn units and that associated with road decommissioning and storage would be stabilized within one or two growing seasons following project activities. Any transmission of soil into stream channels from these activities would also cease within that period.

Road related-activities would be performed during the dry season, minimizing the potential for soil disturbance. Further, road prisms mostly would cross RHCAs and stream channels relatively perpendicularly, the reduction in shade and large woody debris recruitment associated with stream crossings should be biologically undetectable at the project area scale. Traeumer (2018) also determined that while some sediment input to streams would occur from temporary road construction, reconstruction, decommissioning, and culvert replacement, the amount would be short term and too small to be measurable. Over the long term, the proposed road-related activities should benefit aquatic habitat by reducing the potential for sediment production and water diversion. (Also see Traeumer 2018.)

Because road reconstruction and decommissioning activities would not necessarily be coincident or shortly following vegetation manipulation and road construction/reconstruction, it cannot be said that the proposed action would result in a net reduction in sediment production in the project area for either action alternative. However, as discussed above, sediment yield from the primary project activities should be minimal and non-measurable, so indirect effects on redband trout and western pearlshell mussel downstream of the project area should be similarly negligible. When completed, the reduction in sediment production associated with road storage and decommissioning should tend to improve aquatic habitat quality in the long term.

Direct and Indirect Effects Summary. To a large extent, the implementation of INFISH RHCA buffers and compliance with INFISH standards and guides should eliminate or reduce to biological insignificance potential effects to sensitive aquatic species in the project area and along log haul routes. In addition to INFISH compliance, other PDFs proposed for the project should further ensure the potential for both short- and long-term effects on stream and riparian habitat and redband trout and western pearlshell mussel would be minimal, unlikely, or both, and so there should be no long-term effect at the population scale. The road-related activities may similarly affect aquatic habitat at the site-specific and temporary scales, but in aggregate and over the long term should improve watershed conditions and therefore redband trout and western pearlshell mussel habitat, albeit likely at a non-detectable scale. Because only small portions of the four subwatersheds above are within the project area, vegetation management activities should be too minor to affect aquatic resources at the full subwatershed scales.

In summary, the proposed project, implemented with the PDFs described above, should have little to no effect on sensitive species, the ability of stream and riparian habitat to support these species, or the species' populations viability to persist at the project, District, or Forest scales.

## **Regulatory Framework**

The proposed action has been determined to be in compliance with the following laws, regulations, policies and Forest Plan management direction applicable to this project:

### Endangered Species Act

Section 7 of the Endangered Species Act (ESA) of 1973, as amended, requires Federal agencies to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of threatened, endangered, or proposed species, or cause the destruction or adverse modification of their critical habitats. All aquatic species on the current U.S. Fish and Wildlife Service (USFWS) list for Latah and Benewah County were evaluated (Appendix A), and none are present within the project area or for many miles downstream (i.e., in the Spokane or Columbia Rivers). Compliance with Section 7 of the Endangered Species Act (requiring consultation with the U.S. Fish and Wildlife Service or National Marine Fisheries Service for "may affect" projects) would have been initiated if a "May Affect" determination had been made.

### Forest Service Manual 2670

The USFS established direction in FSM 2670 to guide habitat management for proposed, endangered, threatened, and sensitive species. Objectives for management of sensitive species include: (1) ensure that Forest Service actions do not contribute to loss of viability of any native or desired non-native plant or animal species; (2) ensure that activities do not cause the status of any species to move toward federal listing; and (3) incorporate concerns for sensitive species throughout the planning process, reducing negative effects to species and enhancing opportunities for mitigation. Species on the current Region 1 Sensitive Species List known or suspected to occur on the Clearwater National Forest were selected for detailed evaluation if they could occur in the analysis area.

Appendix A provides the Biological Evaluation (BE), which addresses listed, proposed, and sensitive wildlife species as required by Forest Service Manual 2672.4 and Regional direction pertaining to streamlining BEs (USDA FS 1995).

### **Clearwater Forest Plan Consistency**

The Crane Point Project would be implemented in compliance with the Clearwater Forest Plan (CNF 1987). The Forest Plan was based on the requirements of the National Forest Management Act (NFMA) of 1976, and the NFMA implementing regulations found at 36 CFR 219. Forest Plan goals that relate specifically to the proposed project include:

- Manage the Forest's fishery streams to achieve optimum levels of fish production by: (1) maintaining high quality habitat in existing high quality streams, and (2) rehabilitating and improving degraded streams on certain developed portions of the Forest; and then maintaining the optimum levels (II-2).
- Manage habitat to contribute to recovery of each threatened and endangered species occurring on the Forest (II-2).

National Forest lands proposed in the Crane Point Project are found primarily in Management Area, E1, with inclusions of Management Area M2. Table 1 lists the primary emphasis and goals for each MA.

**Table 1 – Forest Plan Management Areas**

<b>Management Area</b>	<b>Acres</b>	<b>Direction</b>
E1	All of project area (~1,350 acres), less M2 inclusions	<b>Timber Producing Lands</b> – Manage to provide optimum, sustained production of wood products and viable elk populations while providing adequate protection of soil and water quality (Forest Plan, III-57).
M2	Unquantified inclusions (acreage currently unknown; unmapped RHCAs would be identified during project layout)	<b>Riparian Areas</b> – Manage under the principles of multiple use as areas of special consideration, distinctive values, and integrated with adjacent management areas to the extent that water and other riparian dependent resources are protected (Forest Plan, III-68).

- **Management Area M2 (Riparian Conservation Areas):** Manage under the principles of multiple use as areas of special consideration, distinctive values, and integrated with adjacent management areas to the extent that water and other riparian-dependent resources are protected. The Forest Plan has been amended to include INFISH and PACFISH stream channel and riparian habitat protection measures. No timber harvest would occur in these areas, but prescribed fire may be used to the extent that it does not prevent attainment of Riparian Management Objectives and minimizes disturbance of riparian ground cover and vegetation.

Appendix K of the Clearwater Forest Plan provides an explanation of the Forestwide Standards for specific streams and drainage areas. Specifically for the project area, Appendix K includes water quality standards for identified project area streams (does not include any streams in the Hangman Creek subbasin). Table 2 shows the standards for project area streams, although the headwater tributaries in the project area are not really the size of streams intended to be addressed in Appendix K.

Compliance with water quality standards is discussed in Traeumer (2018) which documents compliance with likely sediment level loading over existing levels.

**Table 2. Appendix K Fish/Water Quality Standards for Watersheds in the Crane Point project area**

Stream	Standard	Channel Type	Indicator species	Approximate % Sediment Loading over Natural	Allowable Yrs. in 30 Exceeding Threshold	Desired Future Condition Cobble Embeddedness* (%)
Meadow Creek	Minimum Viable	C	Brook	350%	20	40-45
Gold Creek (Crane Creek)	Minimum Viable	C	Brook	350%	20	40-45
E Fork Deep Creek (not listed in App K)	Minimum Viable (presumed)	C	Brook	350%	20	40-45
Hangman Creek (not listed in App K)	Minimum Viable (presumed)	B	Rainbow	650%	20	40-45
*Jones and Murphy (1997)						

Forest Plan Stipulation Agreement: Litigation on the CNF Forest Plan resulted in a Stipulation Agreement (CNF, 1993. The Wilderness Society, et al., v. F. Dale Robertson, et al., Stipulation of Dismissal (Civil No. 93-0043-S-HLR)) that discusses what type of activities the Forest could proceed with and under what conditions. The Agreement states “The Forest Service agrees to proceed only with those projects that would result in no measurable increase in sediment production in drainages currently not meeting Forest Plan standards.” (Only those watersheds that do not meet fine sediment and/or cobble embeddedness standards (a measurement of fine sediment prevalence), would trigger this portion of the Stipulation Agreement).

Traeumer (2018) made the determination that the action alternatives for the project would cause no measurable increase in sediment production, so the project meets the terms of the Stipulation Agreement.

### **Cumulative Effects**

Design features for fisheries, especially INFISH RHCA buffers and INFISH standards and guides, and for water quality and soils would substantially reduce or eliminate the potential for sediment generation and its movement into stream channels. Any effects from sediment would be biologically undetectable at the project scale. Based on this analysis, the proposed Crane Point project would have no cumulative effects to redband trout, wester pearlshell mussel and their habitats.

### **Conclusion**

Region 1 Sensitive aquatic species, particularly redband trout, are likely present a relatively short distance downstream of the project area. Effects to the species and their habitat resulting from the proposed vegetation management and road-related activities are possible. However, due to the specific locations, the nature of the activities proposed and the implementation of design features effects to the species would be unlikely, and therefore effects to their populations as a whole would not occur. As a result, there would not be any extraordinary circumstances related to Sensitive aquatic species associated with the proposed actions.

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31 October 2018

## References

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## APPENDIX A.

Project Name: Crane Point

### Threatened, Endangered, And Sensitive Species Summary Of Conclusion Of Effects

<i>SCIENTIFIC NAME</i>	Common Name	Special Status	Relevant to Project Area?	Proposed Action
<i>Oncorhynchus mykiss gairdneri</i>	Snake River steelhead trout	Threatened	N	NE
<i>Oncorhynchus tshawytscha</i>	Snake River fall Chinook salmon	Threatened	N	NE
<i>Salvelinus confluentus</i>	Bull trout	Threatened	N	NI
<i>Oncorhynchus clarki lewisi</i>	Westslope cutthroat trout	Sensitive	N	NI
<i>Oncorhynchus clarki bouvieri</i>	Yellowstone cutthroat trout	Sensitive	N	NI
<i>Oncorhynchus mykiss gairdneri</i>	Redband trout	Sensitive	Y*	MIIH
<i>Oncorhynchus tshawytscha</i>	Snake River spring/summer Chinook salmon	Sensitive	N	NI
<i>Lampetra tridentata</i>	Pacific lamprey	Sensitive	N	NI
<i>Margaritifera falcate</i>	Western pearlshell mussel	Sensitive	Y*	MIIH

\*Potentially sometimes present in Hangman Creek drainage portion of project area or in Hangman Creek or tributaries downstream of project area

**Federally listed (Threatened-T) Species Determination:** NE = No Effect

**Sensitive (S) Species Determination:** NI = No Impact; MIIH = May impact individuals or habitat but not likely to cause trend toward federal listing or reduce viability for the population or species;

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